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[54] **ELECTRONIC TYPEWRITER WITH SEPARATELY ATTACHABLE DISPLAY MODULE AND ELECTRONIC CONTROL UNIT**

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[73] Assignee: **Ing. C. Olivetti & C., S.p.A.**, Ivrea, Italy

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[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** **400/83**; 400/692; 400/693; 364/708.1; 361/680; 361/681

[58] **Field of Search** 400/83, 84, 85, 679, 400/682, 691, 692, 693; 364/708; 361/380, 395; 248/919

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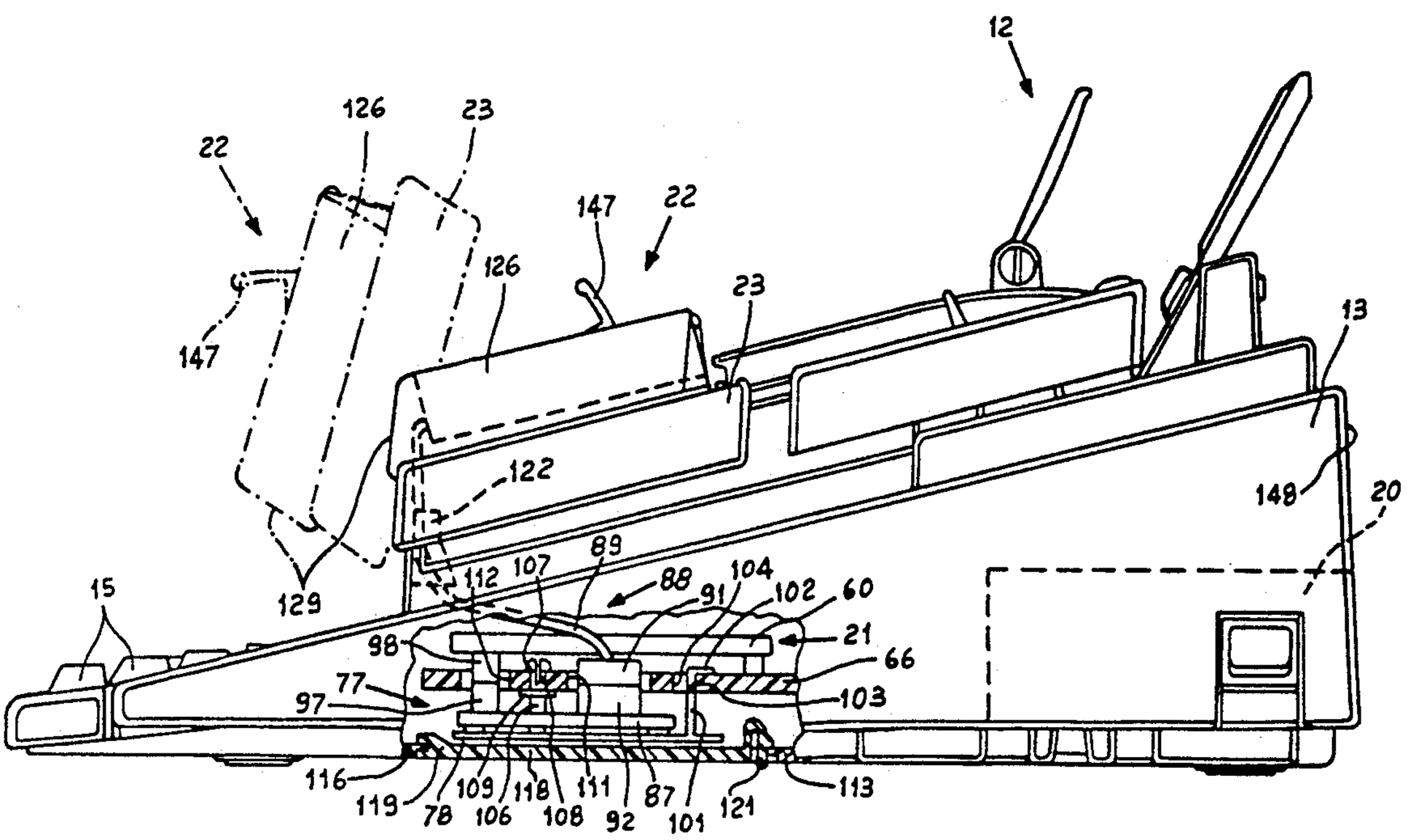
Assistant Examiner—Stephen R. Funk
Attorney, Agent, or Firm—Banner, Birch, McKie & Beckett

[57] **ABSTRACT**

An electronic typewriter has an electronic control circuit housed with the usual typing mechanism in a casing, and can be provided with a display module for displaying text and/or machine functions. The display module is removably fixed to the casing. An electronic unit for controlling the display module is removably fitted in the casing and is connected to the control circuit and the display module by connectors. A basic typewriter without a display module can be constructed with a cover instead of the display module. The two types of typewriter can be produced on largely the same production line, and the basic typewriter can be simply upgraded with a display module in the field.

19 Claims, 7 Drawing Sheets



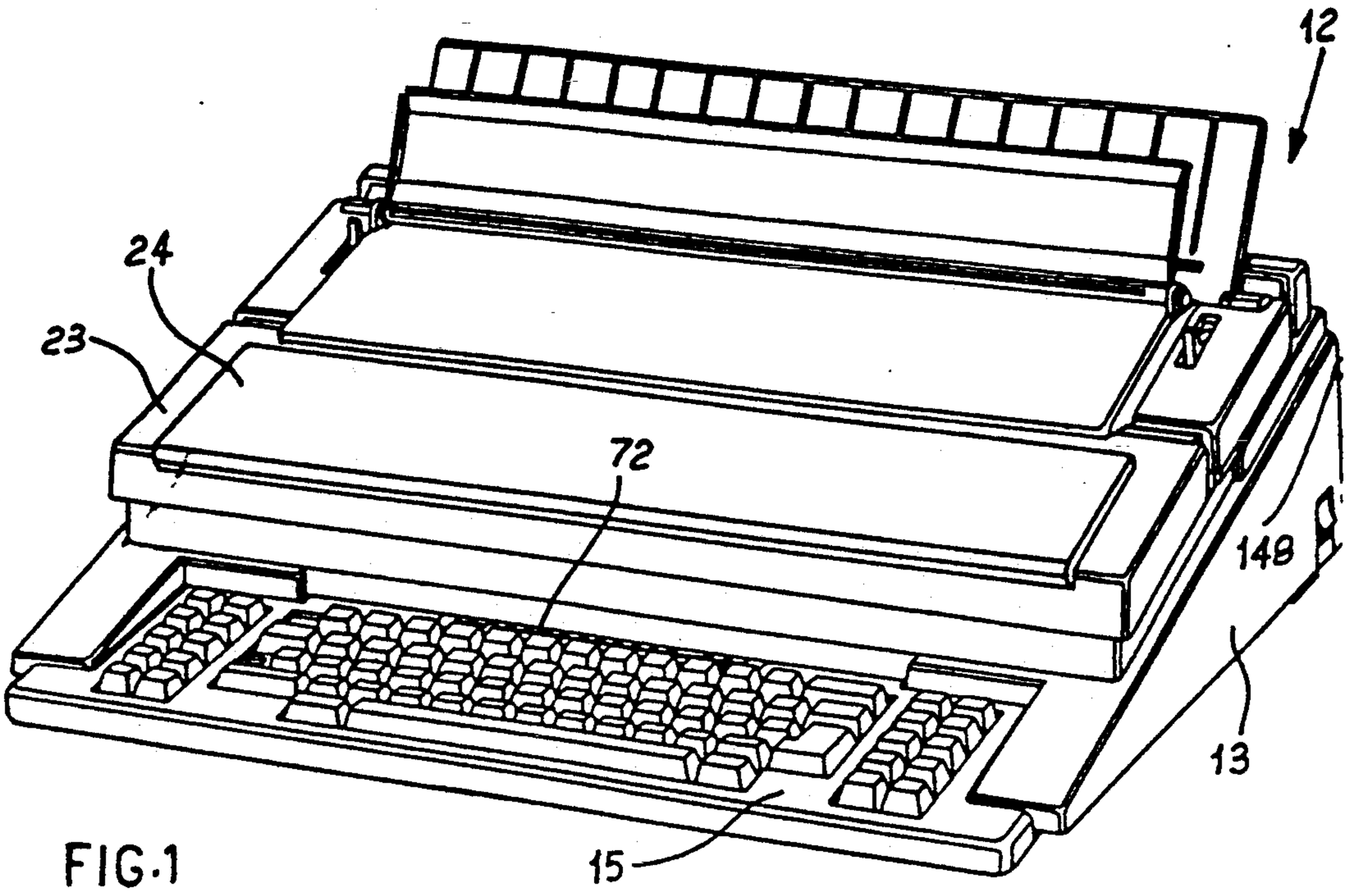


FIG.1

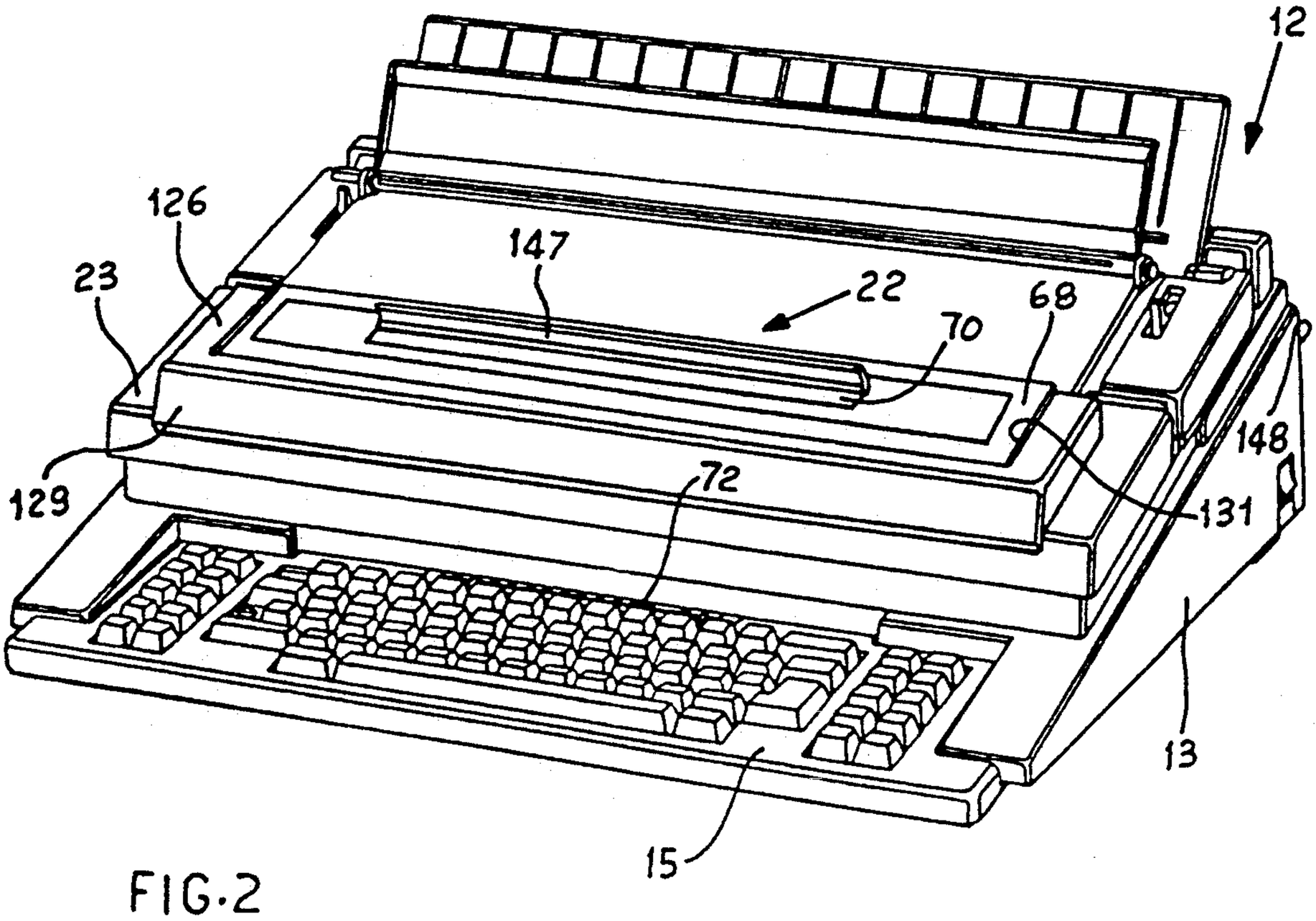
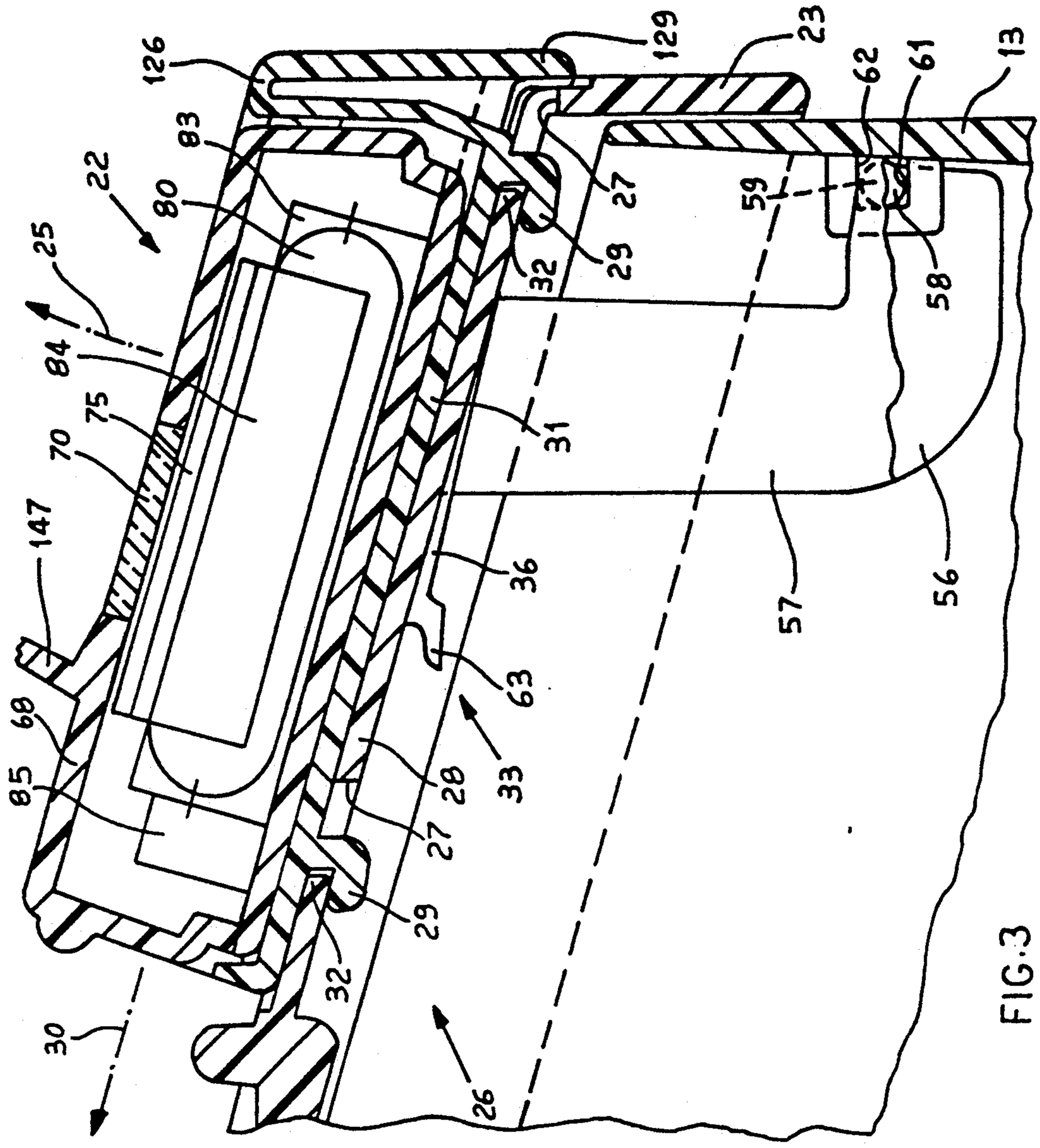


FIG.2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147
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FIG.3

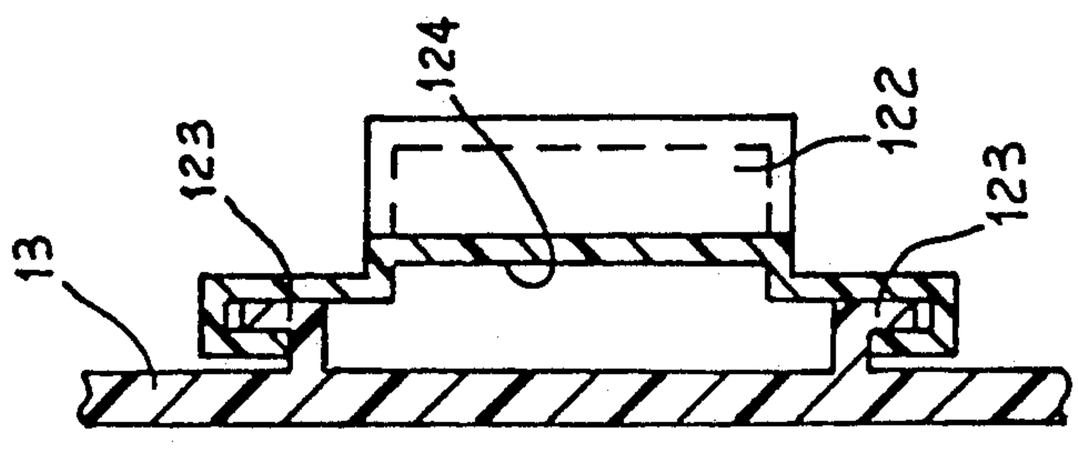
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FIG.11

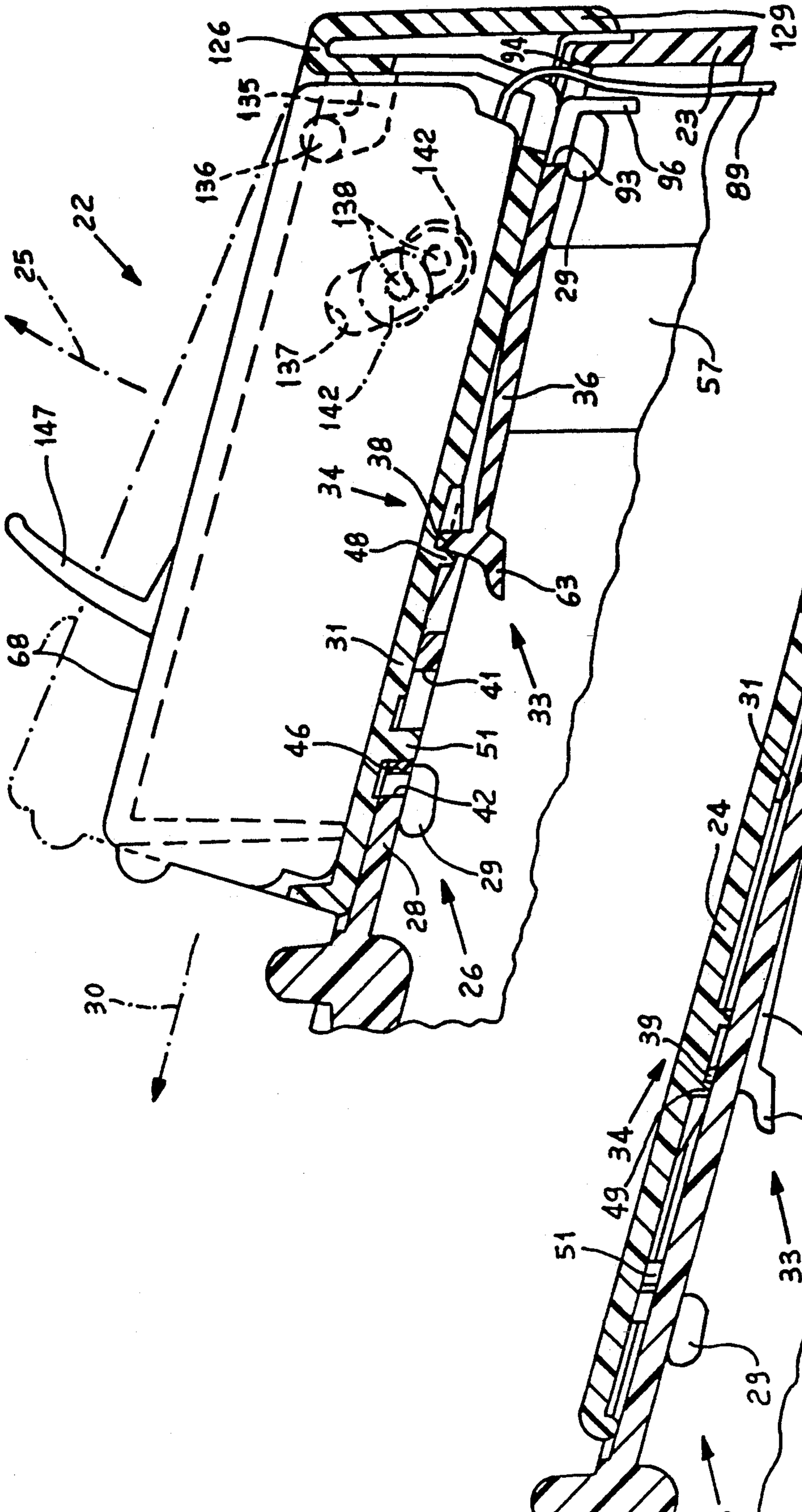
126
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FIG.4

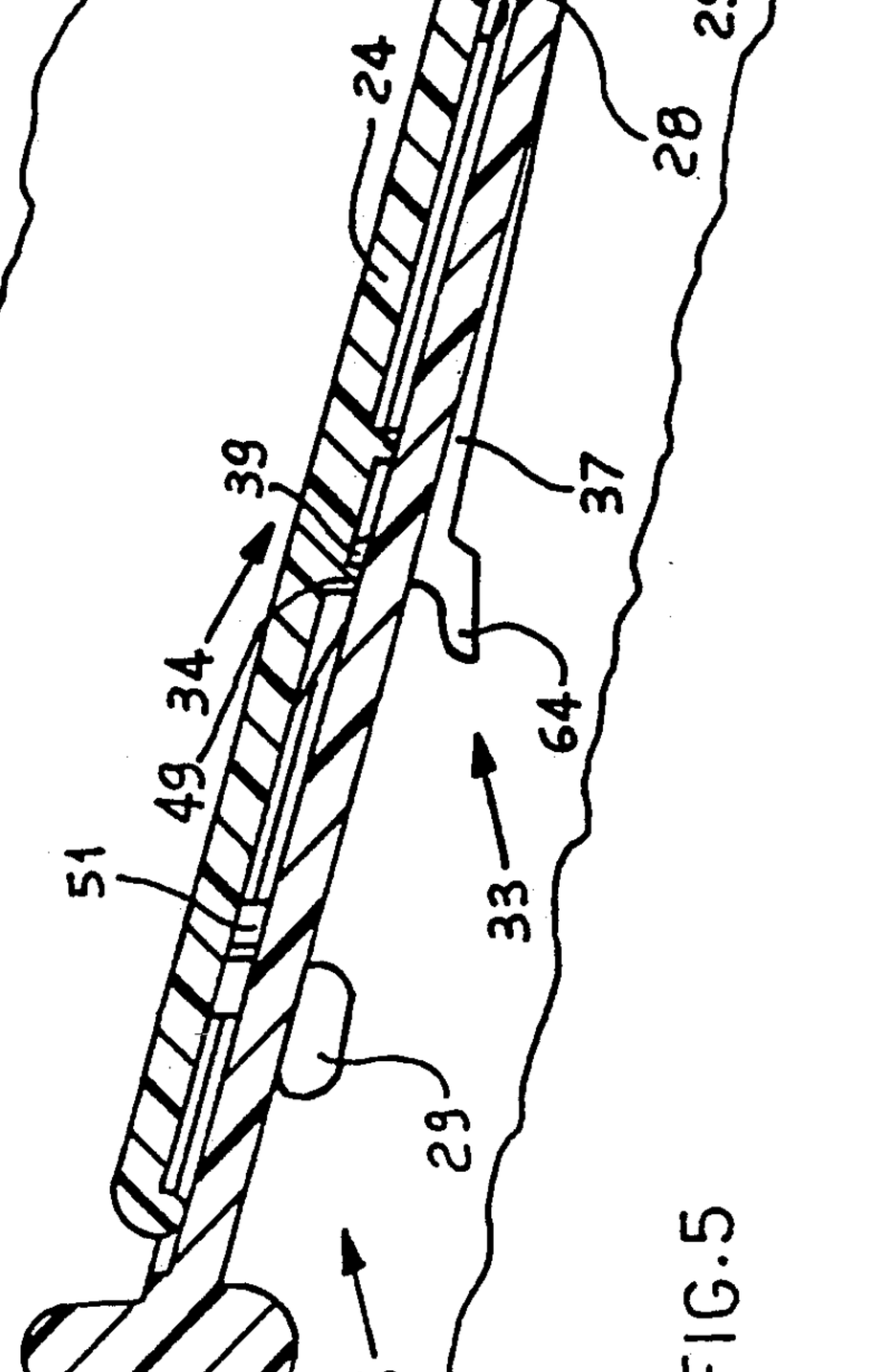
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FIG.5

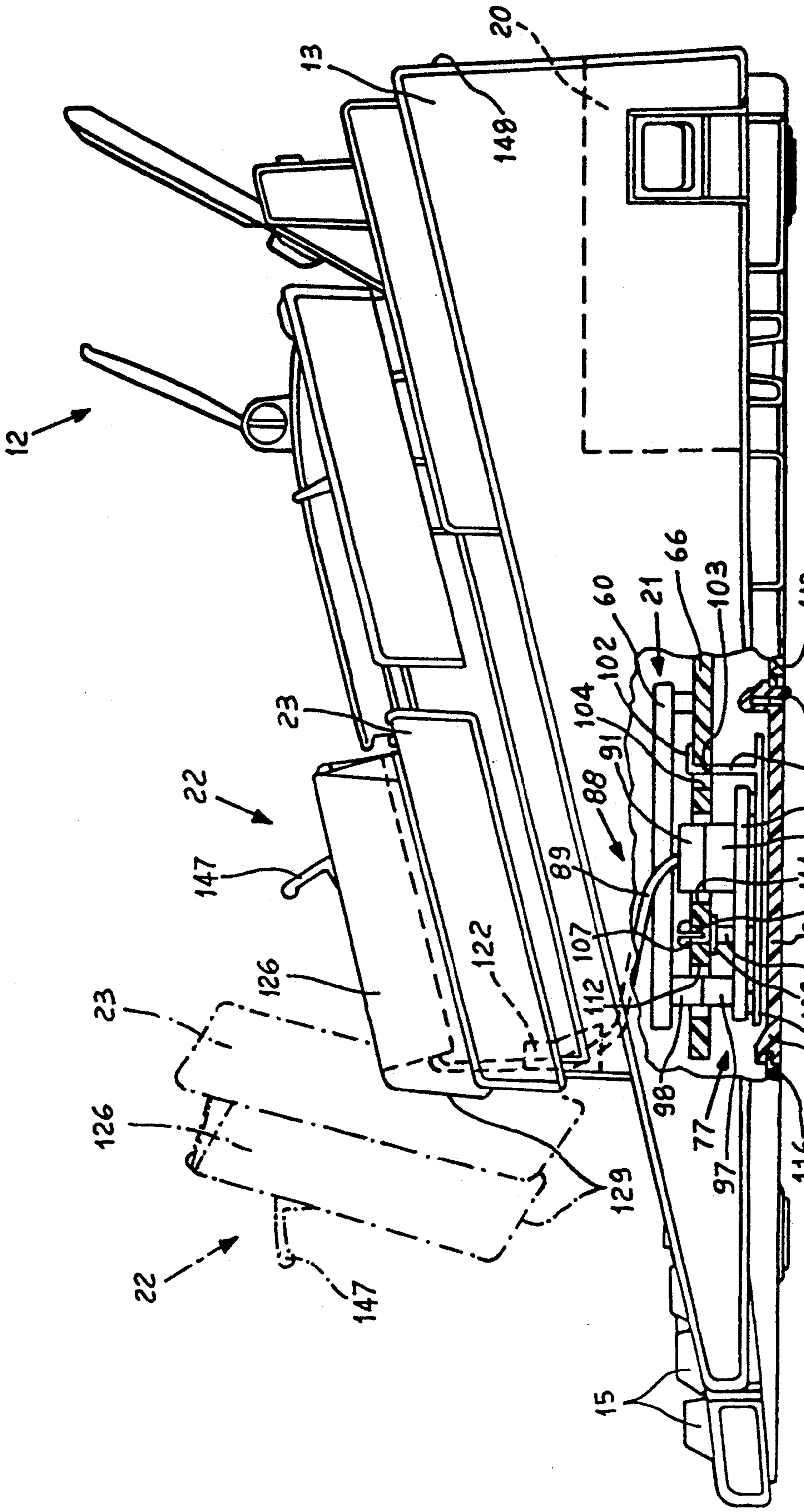
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FIG.6

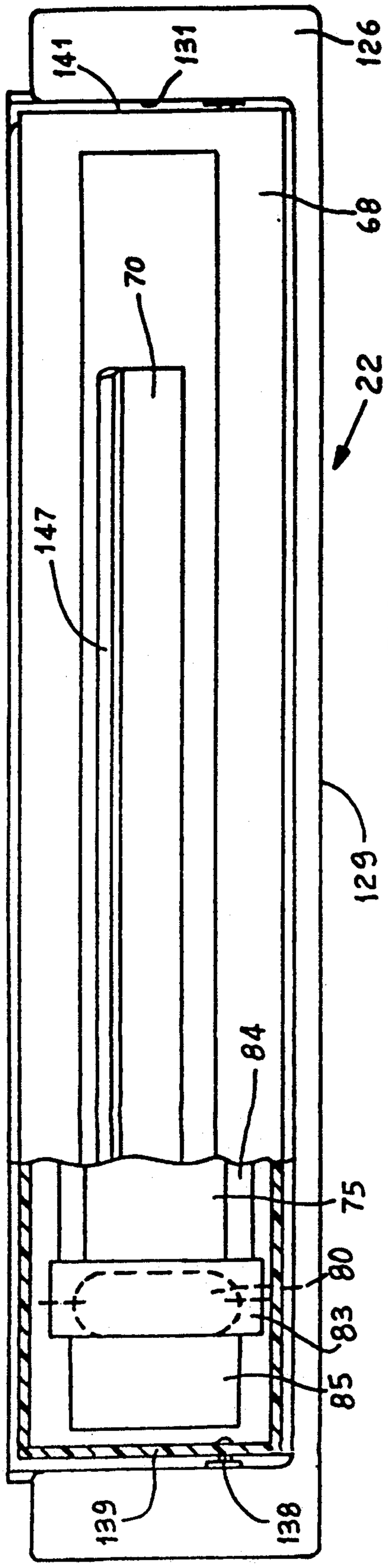

FIG.12

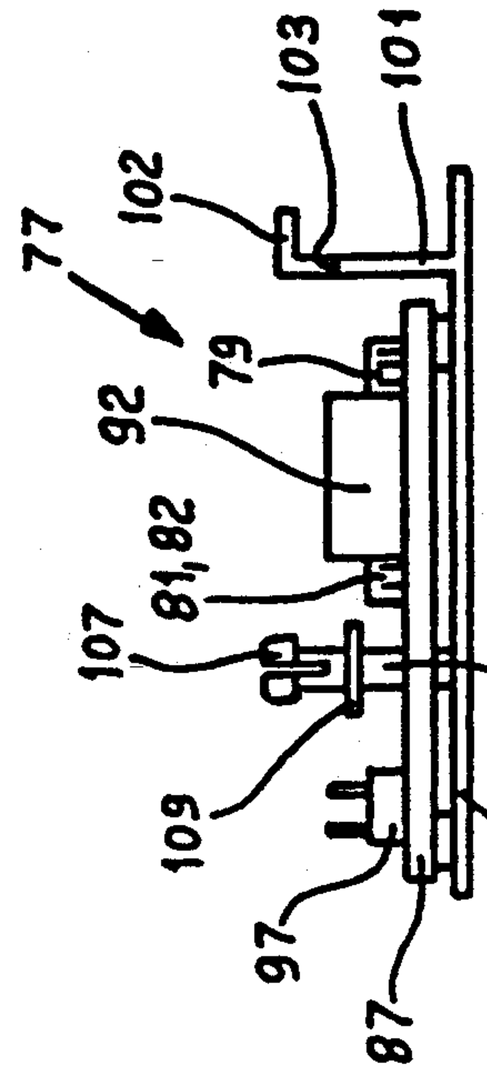

FIG.8

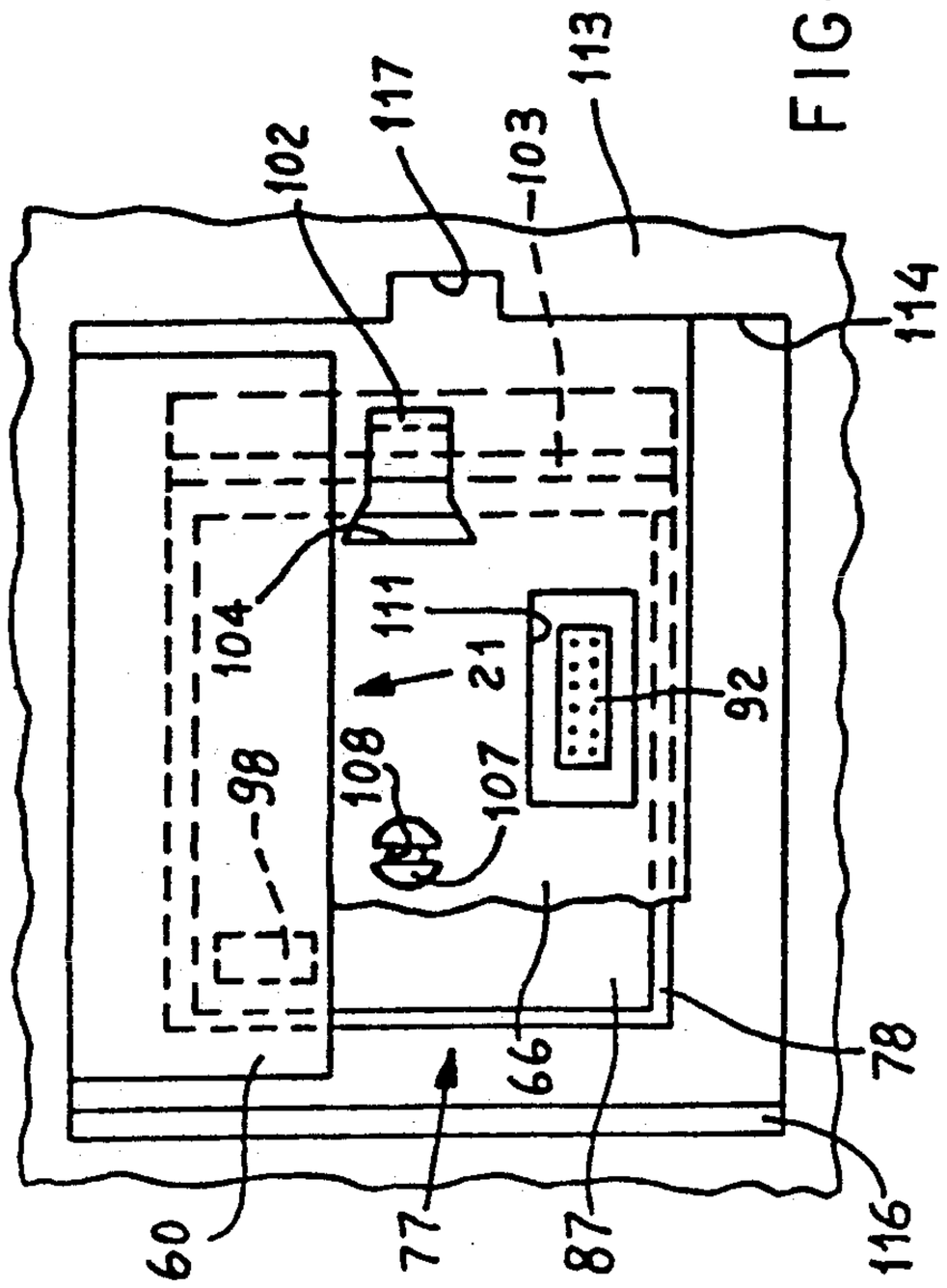

FIG.7

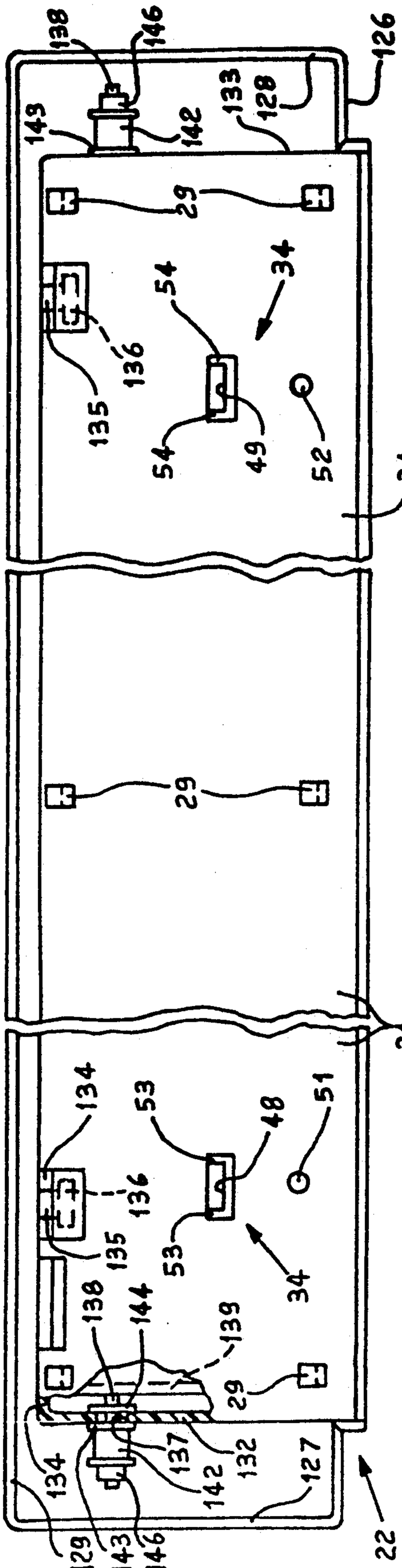
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FIG.9

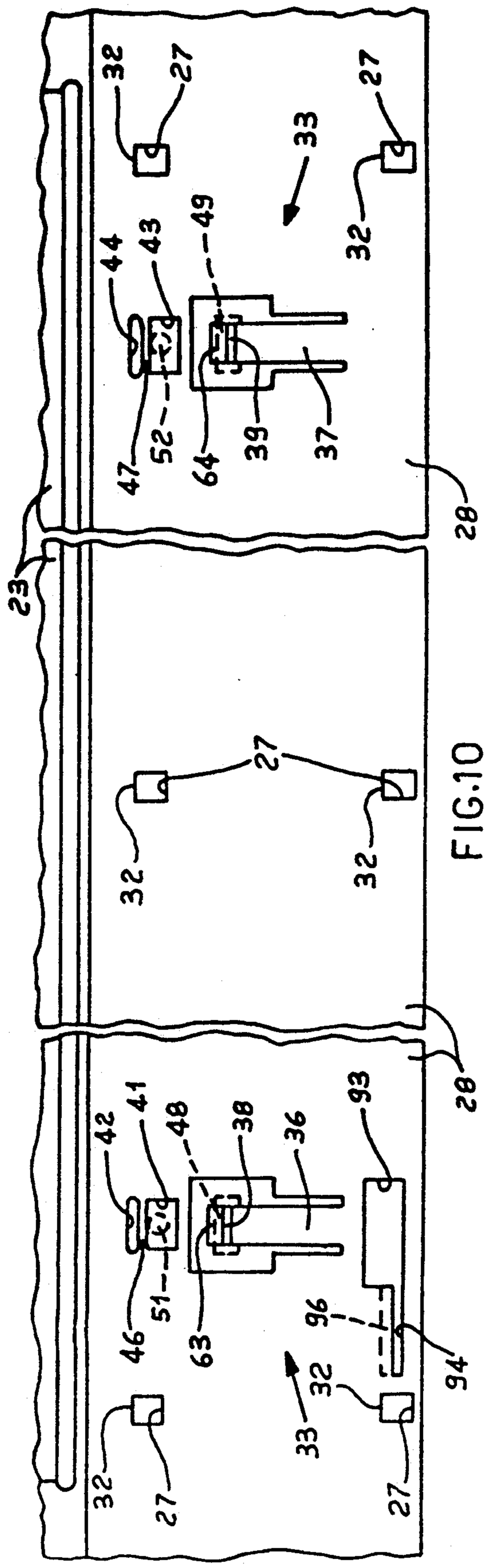
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FIG.10

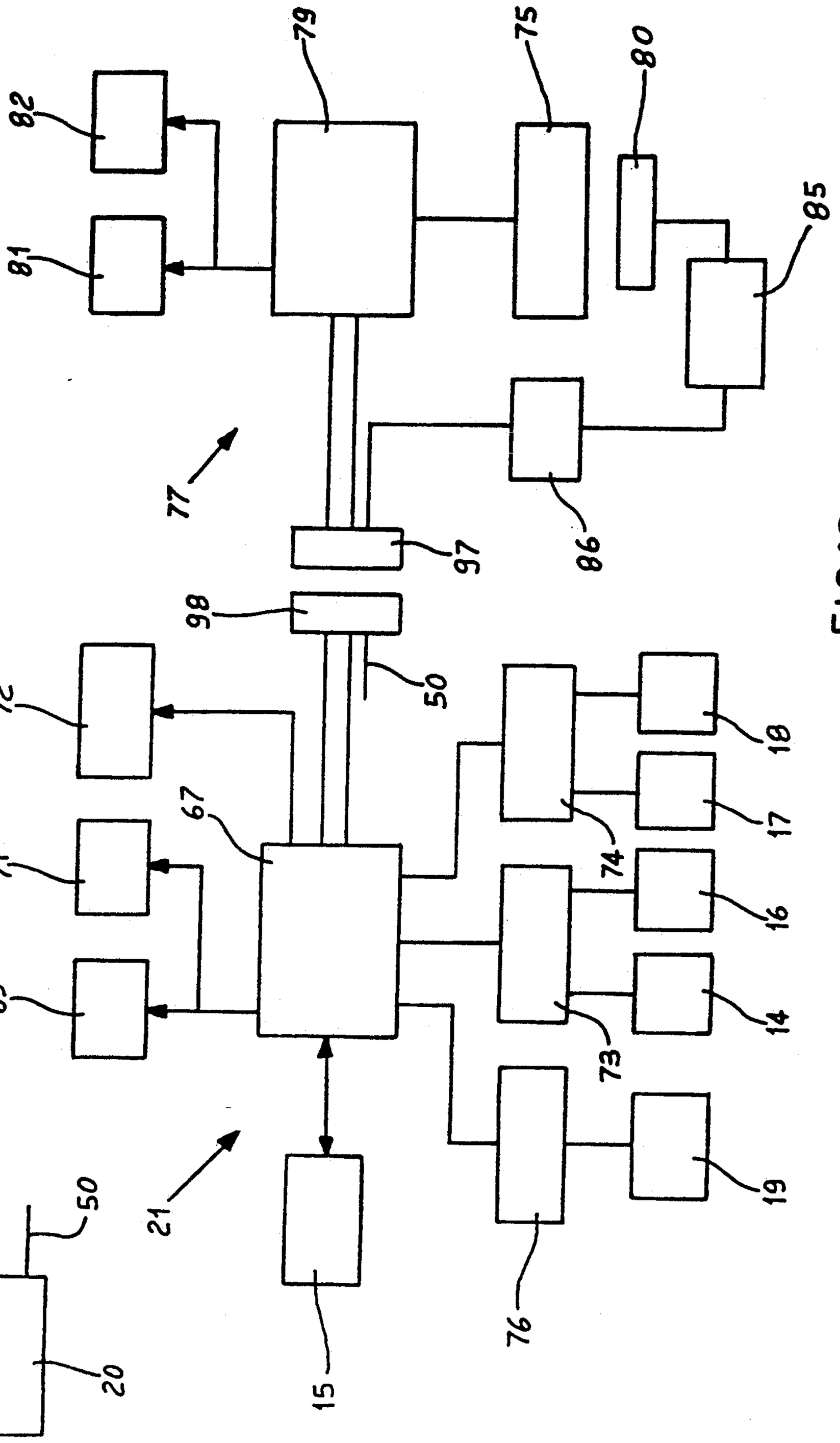
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FIG.13

ELECTRONIC TYPEWRITER WITH SEPARATELY ATTACHABLE DISPLAY MODULE AND ELECTRONIC CONTROL UNIT

BACKGROUND OF THE INVENTION

The present invention concerns an electronic typewriter comprising typing members and electromechanical devices for actuating typing and machine functions, electronic control means for associated control thereof, and a casing which encloses said members and said devices.

Electronic typewriters with a line display and electronic typewriters without any display are known for example from Italian Industrial Model Registrations Nos. 53 508 and 53 506. Both those machines are substantially similar and differ only in the upper part of the casings insofar as the first machine has a cover which carries a display while the second machine has just a plain cover. The electronic control means of the first machine is however different from that of the second machine insofar as the first control means has to control the functions of the display, as well as the series of typing members and function devices. Those differences do not permit the manufacturer to achieve economies of scale and to have a single automated production line for the two models of machine and they do not permit the user to add a display to a basic machine at a time subsequent to purchase thereof.

SUMMARY OF THE INVENTION

An object of the present invention is therefore to provide an electronic typewriter of relatively low cost and to which a display module can be fitted in a simple and economical fashion without the use of tools and instruments, so as to provide machines with greatly enhanced levels of performance in comparison with those of a basic model.

An electronic typewriter embodying the invention is provided with a display module for displaying text and/or machine functions; fixing means for removably fixing the display module to said casing; an electronic unit for controlling the display module; and connecting means for removably connecting the electronic unit to the display module.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features will be apparent from the following description relating to a preferred embodiment of the invention by way of non-limiting example, with reference to the accompanying drawings in which:

FIG. **1** is a right front perspective view of an electronic typewriter embodying the invention;

FIG. **2** is a right front perspective view of an electronic typewriter embodying the invention;

FIG. **3** is a partial side view in section of some details from FIG. **2** on a different scale;

FIG. **4** is a partial side view in section of other details from FIG. **2** on a different scale;

FIG. **5** is a partial side view in section of some details from FIG. **1** on a different scale;

FIG. **6** is a partly sectional side view of the FIG. **2** machine;

FIG. **7** is a plan view of some details from FIG. **6** on a different scale;

FIG. **8** is a side view of some details from FIG. **7**;

FIG. **9** is a partial plan view of some details from FIG. **3** on a different scale;

FIG. **10** is a partial plan view of other details from FIG. **3** on a different scale;

FIG. **11** is a partial plan view in section of some details from FIG. **6** on a different scale;

FIG. **12** is a partial plan view of some details from FIG. **3** on a different scale; and

FIG. **13** shows a logic block circuit diagram of the operating and control unit of the machine of FIG. **2**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. **1**, **2**, **6** and **13**, an electronic typewriter **12** comprises a keyboard **15**, a supply circuit **20**, the usual typing members and electromechanical function devices which actuate the machine functions, for example of the type used in the Olivetti daisywheel typewriter ET2200, an electronic control means **21**, and a casing **13** which encloses such members and devices, the circuit **20** and the control means **21**. The typing members comprise for example a character selection device **14** and a ribbon feed mechanism **16**, and the function devices comprise a line spacing device **17**, a carriage transport device **18** and a striker electromagnet for printing characters, as indicated at **19**. Those devices **14**, **15**, **16**, **17**, **18**, **19** and **20** not being part of the present invention, they are only shown in diagrammatic form and are not described in detail.

A display module **22** for displaying text and/or functions of the machine **12** can be removably fixed on a cover **23** of the casing **13** as an alternative to a cover member **24**, as can be clearly seen from FIGS. **1** and **2**.

Fixing means (FIGS. **3**, **4**, **5**, **6**, **9**, **10** and **13**) which are generally indicated at **26** removably fix the display module **22** or alternatively the cover member **24** to the cover **23** and operate in a first direction **25** perpendicular to the cover **23** and in a second direction **30** perpendicular to the first direction along the cover **23**. The fixing means **26** comprise a series of openings **27** on an element of a pair comprising the display module **22** and the casing **13** and a series of hooks **29** on the other element of the pair. In the non-limiting example, the series of openings **27** are provided in a flat surface **28** of the cover **23** and the series of hooks **29** projecting from a bottom **31** of the display module **22** and the cover member **24** and being capable of being accommodated in the series of openings **27** to engage with edges **32** of the openings **27**, thus preventing movement of the display module **22** or the cover member **24** with respect to the cover **23** in the first direction **25**. The fixing means **26** comprise resiliently-deformable counteracting members which are generally indicated at **33** and which can be coupled to counteracting surfaces generally indicated at **34** for fixing the display module **22** or the cover member **24** on the cover **23** of the casing **13** by latching engagement.

The resiliently-deformable counteracting members **33** are capable of coming into latching engagement with the counteracting surfaces **34** after engagement of the hooks **29** with the edges **32** to prevent movement of the display module **22** or the cover member **24** with respect to the cover **23** in the second direction **30**. There are two counteracting members **33** and they each comprise a resilient tongue **36**, **37** (FIGS. **4** and **5**) provided by the flat surface **28** of the cover **23** and elongate parallel to the direction **30** and having a counteracting end **38**, **39**, and two seats **41** and **42**, **43** and **44** such as to delineate

a deformable edge **46, 47**. The resilient tongues **36, 37**, with the end **38, 39** and the seats **41** and **42**, and **43** and **44** respectively, are coaxial with each other.

There are two counteracting surfaces **34** and they each comprise a shoulder **48, 49** (FIGS. **4** and **10**) and a pin portion **51, 52** which project from the bottom **31** of the display module **22** and the cover member **24**. Each shoulder **48, 49** is coaxial with the corresponding pin portion **51, 52** and is reinforced and stiffened at the ends by limbs **53, 54** (FIG. **9**) which are perpendicular to the shoulder **48, 49**. Each pin portion **51, 52** is capable of being accommodated in the seat **41, 42** while each resilient tongue **36, 37** urges the counteracting end **38, 39** against the respective shoulder **48, 49** in such a way as to hold the respective pin portion **51, 52** against the deformable edge **46, 47** for fixing the display module **22** or the cover member **24** on the cover **23** of the casing **13** without play.

The cover **23** is movable from a first position in which it is normally supported on the casing **13** to a second position in which it is rotated through about 90°. The second position permits access to the interior of the casing **13** in order to have access to the printing members and the electromechanical devices **14, 16, 17, 18** and **19** and for mounting either the display module **22** or the cover member **24** as described hereinafter. The cover **23** is movable by means of two arms **56** and **57** (FIGS. **3** and **4**) projecting from the flat surface **28** inwardly of the casing **13** and each being provided at the free end with a pin portion **58, 59** rotatably accommodated in a seat **61, 62** in the casing **13**.

When either the display module **22** or the cover member **24** is mounted on the cover **23**, the resilient tongues **36** and **37** urge the ends **38** and **39** against the respective shoulders **48** and **49** and have an irreversible action, after latching engagement, on the display module **22** or the cover member **24**. Each resilient tongue **36, 37** comprises a projection **63, 64** which projects from the plane of the tongue and which is capable of being actuated manually to disengage the end **38, 39** from the respective shoulder **48, 49** when the cover **23** is positioned in the second position.

The supply circuit **20** (FIG. **13**) is of known type and provides on two lines **45** and **50** low voltage direct currents at 5 V and 24 V respectively for the logic circuits and for actuation of the electronic control means **21**.

The display module **22** comprises a case **68** of elongate parallelepipedic shape and formed for example by two shell portions, being provided on its top with a window **70** and accommodating a flat elongate display **75** of the liquid crystal type which can be observed in a transparency mode, and a neon lamp **80** of tubular shape which is disposed beside the display **75**. The casing **68** also accommodates a shield **83** for the lamp **80**, a diffuser lens **84** whose edge is illuminated by the lamp **80**, and a voltage booster circuit **85** of the inverter type which is supplied with the 24 V current from the circuit **20** and which is capable of supplying alternating current at high voltage (400 V) to the lamp **80**, and a regulating circuit **86** which operates on the circuit **85** to modify the illumination and thus the contrast of the display **75**.

The electronic control means **21** (FIGS. **1, 2, 6, 7, 8** and **13**) comprises a printed circuit board **60** supported by a base support **66** of the machine **12** and a series of components mounted on the printed circuit **60** and comprising a microprocessor CPU **67**, which is connected to the keyboard **15**, ROM memory **69**, RAM memory **71**, an actuator **73** for actuating the selection device **14** and the ribbon feed mechanism **16**, an actuator **74** for the line spacing and transport devices **17** and **18** and an actuator **76** for the striker electromagnet **19**. The CPU **67** also controls an illuminated indicator **72** for immediate display on the machine **12** of the operative conditions selected by the operator.

An electronic unit **77** for controlling and operating the display **75** can be mounted removably within the casing **13** and can be functionally connected removably to the electronic control means **21**. The electronic unit **77** (FIGS. **6** to **8**, and **13**) is supported by a metal plate member **78** and comprises a printed circuit board **87** on which are disposed a microprocessor CPU **79**, ROM memory **81** and RAM memory **82** for controlling and actuating functions of the display **75**. Electrical connecting means indicated at **88** removably connect the electronic unit **77** to the display module **22**. The electrical connecting means **88** comprise a flexible cable **89** and a connector **91** capable of being connected to a complementary connector **92** of the electronic control unit **77**.

The cover **23** (FIGS. **4, 6** and **10**) suitably comprises an opening **93** for permitting the connector **91** of the display module **22** to pass therethrough, a groove **94** connected to the opening **93** to guide the flexible cable **89** and a limb **96** which projects in the interior of the cover **23** and is adjacent to the groove **94** to guide the flexible cable **89** between the limb **96** and the inward edge of the cover **23**. Finally the electronic unit **77** can be functionally connected removably to the electronic unit **21** by means of a connector **97** on the unit **77** and a complementary connector **98** on the electronic control means **21**.

The plate member **78** (FIGS. **6, 7** and **8**) on which the electronic unit **77** is supported comprises a plate portion **101** which is perpendicular thereto, and has a limb **102** projecting from an upper edge **103** and capable of engaging a suitably shaped seat **104** of the base support **66** of the machine **12**. Also fixed on the plate member **78** is a resilient pin portion **106** having a mushroom-shaped, resiliently yielding end **107** capable of passing through a hole **108** in the base support **66**. The plate member **78** can be removably fixed to the base support **66** by means of the resilient end **107** and a flange **109** which are positioned between the upper and lower edges of the base support **66**. Two seats **111** and **112** in the base support **66** permit the connectors **91, 92** and **97, 98** to be passed therethrough and positioned therein when the plate member **78** is removably fixed to the base support **66** as described hereinafter.

The casing **13** has a bottom **113** (FIGS. **6** and **7**) with an access opening **114** to permit access to and fixing of the plate member **78** to the base support **66**. The opening **114** has an edge **116** at one side and a seat **117** at the other side, and can be closed by a cover portion **118** which can be removably fixed to the bottom **113**. The cover portion **118** suitably has a forked edge **119** at one side and a resilient catch **121** at the other side, wherein the forked edge **119** is capable of engaging the edge **116** of the opening **114** and the resilient catch **121** is capable of engaging into the seat **117** in order thus removably to fix the cover portion **118** to the bottom **113**.

A protection element **122** (see FIGS. **6** and **11**) is positioned within the casing **13**, is slidable on two fixed guides **123** of the casing **13** and defines a seat **124** for accommodating the flexible cable **89** of the display module **22** in such a way as to prevent contact from

occurring between the typing members and the flexible cable **89** during the movements of the carriage in the printing phase.

The display module **22** (see FIGS. **2**, **3**, **4**, **9** and **12**) comprises a base body **126** of substantially parallelepipedic elongate shape which is delimited in its lower part by the bottom **31**, by two side portions **127** and **128** and by a front wall **129** and which in its upper part has a parallelepipedic, rearwardly open opening **131** and in which the case **68** is accommodated. The opening **131** is delimited laterally by two side portions **132** and **133** parallel to the side portions **127** and **128** and by a front wall **134** which is parallel to the wall **129** and projecting into same are two pin portions **136** supported by two respective arms **135** which are fixed to the wall **134**. The case **68** is pivoted in its upper part on the pin portions **136** in such a way as to be capable of modifying the angle of inclination of the display **75** after the base body **126** is mounted on the machine **12**. Provided in the side portions **132** and **133** are two respective slots **137** which are engaged by two pin portions **138** which are each fixed to a corresponding side portion **139**, **141** of the case **68** to define the angle of inclination of the display **75**. The movement of the case **68** is also braked by means of two small cylinders **142** of elastomer which are supported by the pin portions **138** and which urge two friction washers **143** against the side portions **132** and **133**, being counteracted by a pair of flanges **144** and screwthreaded stops **146**.

Finally a plate portion **147** projects upwardly from the case **68** and is positioned adjacent to the window **70** overhanging the display **75** to protect it from any light reflection.

The electronic typewriter **12** in FIG. **1** is a basic machine having a series of performance parameters which are substantially limited to those of typing and correction. According to operator requirements the machine can increase its performance parameters by subsequently fitting additional parts, for example the display module **22** and the plate member **78** as described hereinbefore in order to provide the electronic typewriter **12** shown in FIG. **2**. In addition the display module **22** can be selected from modules having different characteristics, in particular in regard to the number of lines of text and/or the number of characters. A first version provides for example two lines of 40 characters while a second version provides two lines of 80 characters.

The electronic unit **77** may also be selected from different versions with different memory capacities and different performances, both for correct management of the selected module **22** and for satisfying the user requirements in the optimum fashion.

Fitment of the display module **22** and the plate member **78** to the typewriter **12** in FIG. **1** is as follows.

With reference to the above-described Figures, the operator turns the machine in such a way as to have the bottom **113** facing the operator with the machine being supported on the rear part **148** of the casing **13**. Using one hand, the operator flexes the resilient catch **121** to disengage it from its seat **117**, and removes the cover portion **118**. The operator takes the plate member **78**, positions it in the access opening **114** while holding it inclined at about 45° with respect to the base support **66** and engages the limb **102** in the seat **104**. The operator then turns the plate member **78** so as to position it parallel to the base support **68**, in which the resilient pin portion **106** is positioned and is engaged in the hole **108**. The plate member **78** is thus removably fixed to the base support **66** and is held in position by the action of the upper edge **103** of the plate portion **101** which bears against the lower edge of the base support **66**, by means of the limb **102** which bears against the upper edge of the base support **66**, by way of the resilient end **107** which bears against the upper edge of the base support **66** and by way of the flange **109** which bears against the lower edge of the base support **66**. During that turning movement the connector **97** of the electronic unit **77** is engaged with the connector **98** of the first electronic control means **21** while the connector **92** is positioned in the seat **111** of the base support **66**. The operator refits the cover portion **118**, positioning the forked edge **119** over the edge **116**, and presses against the cover portion **118** until the resilient catch **121** is re-engaged with the seat **117** and thus positions the machine in its operating position.

To remove the cover member **24**, the operator rotates the cover **23** to position it in its second position (as shown in dash-dotted lines in FIG. **6**) and then flexes the resilient tongues **36** and **37** by acting on the projections **63** and **64** thereof until the ends **38** and **39** are disengaged from the respective shoulders **48** and **49**. The operator displaces the cover member **24** parallel to the flat surface **28** in the opposite direction to the second direction **30** to disengage the hooks **29** from the edges **32** of the openings **27** and thus moves the cover member **24** in the first direction **25**, away from the cover **23**.

The operator now removes the protection element **122** by sliding it along the fixed guides **123** and then takes the display module **22** and moves it towards the cover **23**, passes the connector **91** into the opening **93** and positions the flexible cable **89** in the groove **94**. The operator positions the cover **23** in its first position and then brings the hooks **29** on the base body **126** into positions corresponding to the respective openings **27** and positions them by accommodating them in the openings **27** against the force of the resilient tongues **36** and **37**. The operator displaces the display module **22** parallel to the flat surface **28** to engage the hooks **29** with the edges **32** of the openings **27** while the pin portions **51** and **52** move in their seats **41** and **43**, moving towards the deformable edges **46** and **47**. As the hooks **29** are engaged with the edges **32**, the resilient tongues **36** and **37** cause the respective counteracting ends **38** and **39** to come into latching engagement with the corresponding shoulders **48** and **49**, holding the pin portions **51** and **52** against the resiliently deformable edges **46** and **47**. In that way the display module **22** is fixed without play to the flat surface **28** of the cover **23**.

The operator now positions the cover **23** in its second position, engages the connector **91** with the connector **92** of the electronic unit **77** and then refits the protection element **122** on the fixed guides **123** whereby the flexible cable **89** is still guided by the seat **124**. The operator returns the cover **23** to the first position and the electronic typewriter **12** is ready for use. The module **22** cannot be removed by movement in the directions **25** and **30**. In order possibly to remove the display module **22** and the electronic unit **77**, the procedure is the reverse of that described hereinbefore, as regards the electrical connections and as regards the procedure described for removal of the cover member **24** after the cover **23** is opened.

It will be apparent therefore that the display module **22** and the electronic unit **77** can be easily fitted by the

operator without the use of instruments and tools. That is done in a very short time and it provides an electronic typewriter **12** with improved levels of performance in comparison with those of the basic machine.

It will be appreciated that the electronic typewriter, the display module, the electronic unit, the fixing means, the counteracting and connecting members and the sequence of assembly thereof as described above may be the subject of various modifications and improvements both in regard to the form and the arrangement of the various parts without departing from the scope of the present invention.

What we claim is:

1. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for associated control thereof;

a casing which encloses said members and said devices;

a display module for displaying text and/or machine functions;

fixing means for removably fixing said display module to said casing;

an electronic unit for controlling said display module; and

connecting means for removably connecting said electronic unit to said display module;

in which the fixing means comprise resiliently-deformable counteracting members and counteracting surfaces which are coupled to said counteracting members for latching fixing of the display module to said casing; and

in which the fixing means operate in a first direction and in a second direction which is perpendicular to the first direction and comprise a series of openings on an element of the pair comprising the display module and the casing and a series of hooks on the other element of said pair;

wherein said hooks are capable of being accommodated in said openings along said first direction against the action of said counteracting members and to be displaced in the second direction to engage with edges of the openings after being accommodated in said openings to prevent movement of the display module with respect to said casing in the first direction; and

wherein said counteracting members are capable of latching engagement with said counteracting surfaces after engagement of the hooks with said edges to prevent movement of the display module with respect to said casing in the second direction.

2. An electronic typewriter according to claim **1**, in which said casing comprises a flat surface having said series of openings and at least one seat with a resiliently deformable edge, wherein each deformable counteracting member comprises a resilient tongue provided by the flat surface and having a counteracting end, the display module comprises a bottom from which said hooks project downwardly and a pin portion which can be accommodated in said seat, wherein each counteracting surface is provided in said bottom and wherein said resilient tongue urges the counteracting end against said counteracting surface after latching engagement in such a way as to hold said pin portion against the deformable edge of said seat for fixing the bottom of the display module on said casing without play.

3. An electronic typewriter according to claim **2**, in which said flat surface comprises an opening and a groove, said connecting means comprise a connector of the display module and a flexible cable, wherein said opening is capable of permitting the connector of said display module to pass therethrough and wherein said groove is connected to said opening to guide said flexible cable between the display module and said connector.

4. An electronic typewriter according to claim **2**, in which said display module comprises a case in which a flat display is accommodated for displaying one or more lines of characters and/or symbols, and said module comprises a base on which said case is pivoted for modifying the inclination of said display with respect to said casing.

5. An electronic typewriter according to claim **4**, in which said case is of substantially parallelepipedic shape and wherein said base comprises two side portions for mounting the case and a transverse plate which defines said bottom.

6. An electronic typewriter according to claim **1**, wherein said casing comprises a cover movable from a first position in which it is normally supported on the casing to a second position in which it permits access to the typing members, said fixing means being provided for fixing the display module to said cover.

7. An electronic typewriter according to claim **6**, in which said resiliently deformable counteracting members are provided on said movable cover, and comprise a projection for disengagement from said counteracting surfaces, being accessible manually in the second position of the cover for removal of the display module from said cover.

8. An electronic typewriter according to claim **6**, further comprising a cover member capable of being removably fixed on said cover as an alternative to the display module.

9. An electronic typewriter according to claim **1**, wherein said display module comprises a case in which a flat display is accommodated for displaying one or more lines of characters and/or symbols.

10. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for associated control thereof;

a casing which encloses said members and said devices;

a display module for displaying text and/or machine functions;

fixing means for removably fixing said display module to said casing;

an electronic unit for controlling said display module; and

connecting means for removably connecting said electronic unit to said display module,

wherein said casing comprises a cover movable from a first position to a second position in which it permits access to the typing members, said fixing means being provided for fixing the display module to said cover,

wherein said fixing means comprise resilient deformable members which are accessible in the second position of the cover for the removal of the display module in said second position of the cover.

wherein said cover comprises a flat surface having an opening and guide means, said connecting means

comprise a connector and a flexible cable, wherein said opening is capable of permitting the connector of said display module to pass therethrough and wherein said guide means guide said flexible cable between the display module and said connector, and

wherein said display module comprises a case in which a flat display is accommodated for displaying one or more lines of characters and/or symbols and a base on which said case is pivoted for modifying the inclination of the display module with respect to said casing.

11. An electronic typewriter according to claim **10**, including a protection element mounted on fixed guides of said casing and delimits a seat capable of accommodating said flexible cable in such a way as to prevent contact from occurring between the typing members and the flexible cable during movement of said typing members.

12. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for associated control thereof;

a casing which encloses said members and said devices;

a display module for displaying text and/or machine functions;

fixing means for removably fixing said display module to said casing;

an electronic unit for controlling said display module; and

connecting means for removably connecting said electronic unit to said display module,

wherein said casing comprises a cover movable from a first position to a second position in which it permits access to the typing members, said fixing means being provided for fixing the display module to said cover,

wherein said fixing means comprise resilient deformable members which are accessible in the second position of the cover for the removal of the display module in said second position of the cover, in which a support base supports said electronic control means, wherein a plate member supports said electronic unit and comprises a limb capable of engaging a shaped seat in the support base and carrying a connector capable of connecting to a complementary connector of the electronic control means, in which said plate member supports a complementary connector of said electronic unit which is capable of being connected to the connector of the display module.

13. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for associated control thereof;

a casing which encloses said members and said devices;

a display module for displaying text and/or machine functions;

fixing means for removably fixing said display module to said casing;

an electronic unit for controlling said display module; and

connecting means for removably connecting said electronic unit to said display module,

wherein said casing comprises a cover movable from a first position to a second position in which it permits access to the typing members, said fixing means being provided for fixing the display module to said cover,

wherein said fixing means comprise resilient deformable members which are accessible in the second position of the cover for the removal of the display module in said second position of the cover, in which said display module comprises a case having a substantially parallelepipedic shape and wherein a base comprises two side portions for mounting the case and a transverse plate which defines a bottom through which the display module is fixed on said casing.

14. An electronic typewriter according to claim **13**, further comprising friction means between the case and the base for frictionally retarding the movement of said case with respect to said base.

15. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for associated control thereof;

a casing which encloses said members and said devices;

a display module for displaying text and/or machine functions;

fixing means for removably fixing said display module to said casing;

an electronic unit for controlling said display module; and

connecting means for removably connecting said electronic unit to said display module,

wherein said casing comprises a cover movable from a first position to a second position in which it permits access to the typing members, said fixing means being provided for fixing the display module to said cover,

wherein said fixing means comprise resilient deformable members which are accessible in the second position of the cover for the removal of the display module in said second position of the cover, in which a support base supports the electronic control means and a plate member supports the electronic unit, wherein said casing has a bottom and comprises an access opening provided in said bottom for access of the plate member to the support base and wherein said access opening is closed by a cover portion which is removably fixed to said bottom.

16. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for control of said typing members and said electromechanical devices;

a casing enclosing said typing members and said electromechanical devices, said casing comprising a cover tiltable between first and second positions, said cover having an aperture therein and a cover member on said cover and covering said aperture;

a display module for displaying text and machine functions;

an electronic unit for controlling said display module; and

further means for enabling the typewriter to be functionally improved with the display module and the

electronic unit for controlling said display module, said further means comprising:

first fixing means between said cover member and said cover for removably fixing said cover member to said cover, said first fixing means comprising deformable releasable latching means on said cover for fixing said display module to said cover as an alternative to said cover member;

an aperture in said casing, wherein second fixing means is within said casing and accessible through said aperture in said casing for receiving and fixing said electronic unit; and

a second removable cover member for said aperture in the casing;

said electronic control means including electrical connector means for connection to said electronic unit to be fixed in said casing by said second fixing means;

whereby said cover member is removed and replaced by said display module which is tiltable by tilting of said cover, and said electronic unit is fixable by said second fixing means and electrical means for connection to said display module and said electronic control means, and wherein said electronic unit for controlling said display module is insertable through said aperture in the casing.

17. An electronic typewriter according to claim **16**, in which said second fixing means comprises deformable latching means, said first and second fixing means providing for removal of said cover member and fitting of said display module and said electronic unit without the need for tools.

18. An electronic typewriter comprising:

typing members and electromechanical devices for actuating typing and machine functions;

electronic control means for associated control thereof;

a casing which encloses said members and said devices;

a display module for displaying text and/or machine functions;

fixing means for removably fixing said display module to said casing;

an electronic unit for controlling said display module; and

connecting means for removably connecting said electronic unit to said display module, wherein said display module comprises a case in which a flat display is accommodated for displaying one or more lines of characters and/or symbols,

further comprising a supply circuit for providing low voltage current for the typing members and/or the machine functions and in which said display is of the liquid crystal type which can be observed in a transparency mode, and said case also accommodates a neon lamp for lighting said display, and a voltage booster circuit connected to said supply circuit and operable to convert the low voltage current into a high voltage current for said neon lamp.

19. An electronic typewriter according to claim **18**, having a keyboard and wherein the electronic control means comprises a microprocessor connected to the keyboard, ROM and RAM memories and actuator circuits for controlling said typing members and said electromechanical devices for actuating typing and machine functions, and in which said electronic unit comprises a second microprocessor connected to second ROM and RAM memories for controlling display functions of the display module.

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